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3 HIGHLIGHTS

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H I G H L I G H T S  
OF PRESS RELEASES ON THE  
"SALON DU BOURGET"

I. SOVIET COMMUNIQUE TASS OF 25 MAY 1967 PUBLISHED  
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On 12 April 1961 a manned flight was achieved in the Soviet Union for the first time in history. A spaceship-satellite, piloted by flyer-cosmonaut Yuriy Alekseyevich Gagarin, was successfully placed into orbit with the help of the three-stage carrier-rocket "VOSTOK". Numerous ground and air tests were performed by "VOSTOK" prior to that launching, coupled with a multilateral checking of all its systems. This rocket became the object of exhibit for the first time in the 27th International Aeronautical and Astronautical Exhibit in Paris.

The carrier-rocket consists of six blocks and of a streamlined nose cone designed to shield the spaceship from aerodynamic loads in dense layers of the atmosphere during the time of its placement into orbit. The first two stages include a central and four lateral blocks, where liquid-fuel engines are placed. The third stage is provided with an independent engine. In the aggregate, the power of the engine system of carrier-rocket "VOSTOK" constitutes about 20 million HP. Its total length is 38 meters and the diameter of its base exceeds 10 meters (see photographs).

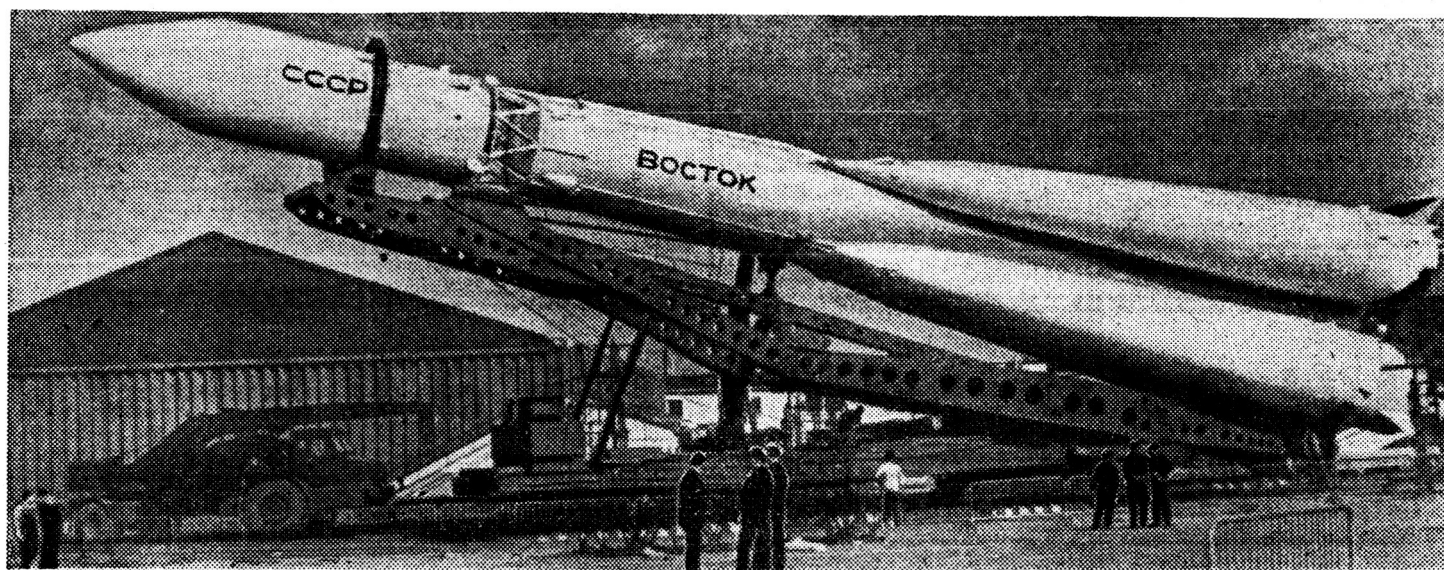
Besides VOSTOK, the Paris exhibit shows the Soviet communication satellite "MOLNIYA-1", with the aid of which the possibility of transmitting color television programs on the basis of the SEKAM system was experimentally corroborated.

Shown also is another satellite -- "KOSMOS-122". Satellites of such a type are used for collecting meteorological information.

Other series of exhibits illustrate the Soviet achievements in the investigations of the Moon. The Soviet AS "LUNA-9" of which a dummy is exhibited, was first to perform a soft landing on the Moon on 3 February 1966, transmitting scientific information. A dummy of AMS "LUNA-10" is also shown to Parisians. This station was the first artificial satellite of the Moon.

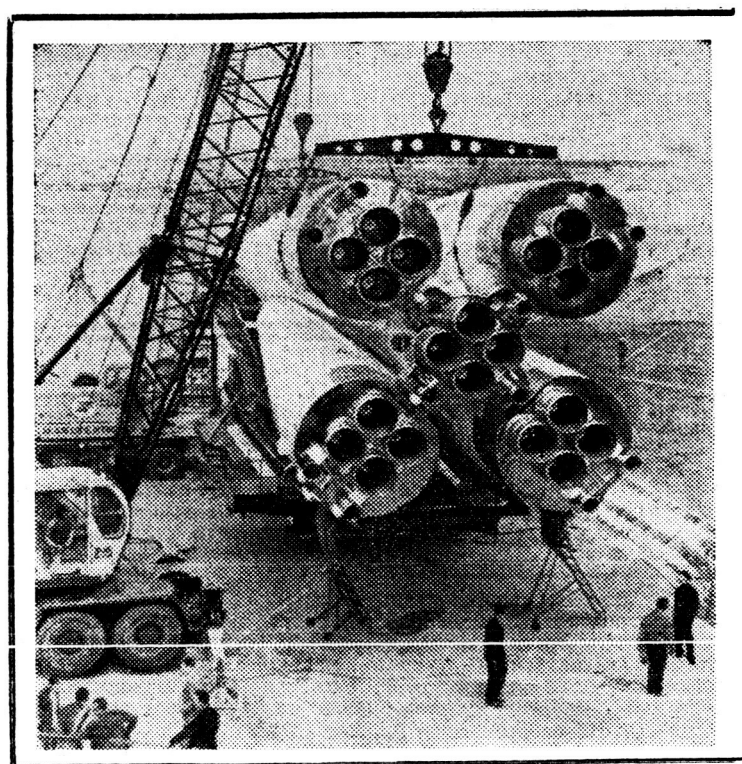
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(Photograph from newspaper "PRAVDA" of  
25 May 1967)



# РАКЕТА «ВОСТОК»—ЭКСПОНАТ ПАРИЖСКОГО САЛОНА

Fig.1



Photos "TASS"

Fig.2

Fig.1. Carrier-rocket "VOSTOK" assembled on its launcher

Fig.2. Assemblage of the same rocket at LE BOURGET Airport

The visitor of the exhibit may also get acquainted with the AIS "VENERA-3". A prominent spot is also given the heaviest satellite "PROTON", designed for the investigation of ultrahigh-energy cosmic rays. Of interest also are the satellites "ELEKTRON-1" and "ELEKTRON-2".

Several dummies of satellites of the "KOSMOS" series are also exhibited.

The visitors will have the opportunity of seeing several rocket engines, including the one installed on the carrier-rocket "VOSTOK".

All these and other exhibits of space technology will be shortly shown in the Exposition of USSR Agricultural Economic Achievements in Moscow.

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## II. COLUMN FROM "LE MONDE", PARIS, 27 MAY 1967

### IMPORTANT SOVIET EFFORT

The Soviet exhibit not only heavy material but also an extended range of their artificial satellites, of their interplanetary probes and of their first application satellites.

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#### I. - MANNED FLIGHTS.

The single capsule VOSTOK (4.2 tons), which was already presented at the preceding "Salon du Bourget", has a diameter of 2.4 meters and weighs 2.5 tons for its spherical part sheltering the pilot on the attached sketch of the carrier-rocket, linked with the third stage (4) of the launcher and surrounded at its base by pressurized tanks (9) with oxygen and nitrogen, designed for astronaut's breathing and for cabin pressurization.

The carrier rocket of VOSTOK is exhibited in public for the first time. With its 38 meter height, this rocket develops at blast-off a thrust of 550 tons. It has placed into orbit the six Vostok capsules, and probably also the following multiseaters "VOSKHOD" weighing hardly more, perhaps some 5 tons. It may be seen on the sketch that the first stage of the rocket is in fact one and one-half stages constituted of a central body (1) of 28 m height and variable diameter, surrounded by four lateral engines (2) (of which two are shown in the sketch in cutaway); the five engines with 19 m height include four nozzles (7), which are fixed. Moreover, the central frame has four smaller piloting nozzles (8), and each of the lateral engines have four mobile nozzles, quite analogous, which allow the manipulation and orientation of motor body in the desired direction. The lateral engines, connected with

the central body at their base and summit, having an analogous diameter of about 3 meters, run a shorter time than the central engine, and are detached while the latter pursues its combustion. Then the last stage (4), linked to the central body by connecting rods (bars), made of metal (3), is fired, placing the capsule in orbit. This last stage, together with its protective hood (6) have a height of some 10 meters. The fuels of the three stages are of liquid-type.

Besides, the USSR exhibits dummies of rocker engines of 100 tons' thrust.

## 2. INTERPLANETARY PROBES

As do the Americans, the Soviet show the dummies of their lunar probes: LUNA-9 which performed a soft landing on the Moon on 3 February 1966, took pictures of lunar soil at close range; its design is much less sophisticated than that of the American SURVEYOR, and weighs at arrival only 100 kg, as against 1.5 tons at start. LUNA-10 was the first missile that became a Moon's artificial satellite on 31 March 1966. It took no photographs, but performed measurements of lunar environment. Three other lunar probes have been successfully launched since then, of which some were equipped with cameras.

A dummy of 'VENERA-3' or VENUS-3 in natural dimensions is also exhibited. It touched down on Venus in March 1966.

## 3. SCIENTIFIC SATELLITES.

The great novelty is the dummy of the heavy satellite PROTON, of 12.2 tons weight, which was launched three times between November 1965 and July 1966, and which is designed for the study of cosmic rays: the Soviets, having at their disposal powerful rockets, do not seem to be anxious to miniaturize the devices placed on board some of their satellites.

## 4. APPLICATION SATELLITES.

There is a dummy of a meteorological satellite fairly similar in its mission to the American satellites "ESSA"; the first operational seems to be KOSMOS-122 launched in June 1966 in the presence of General de Gaulle.

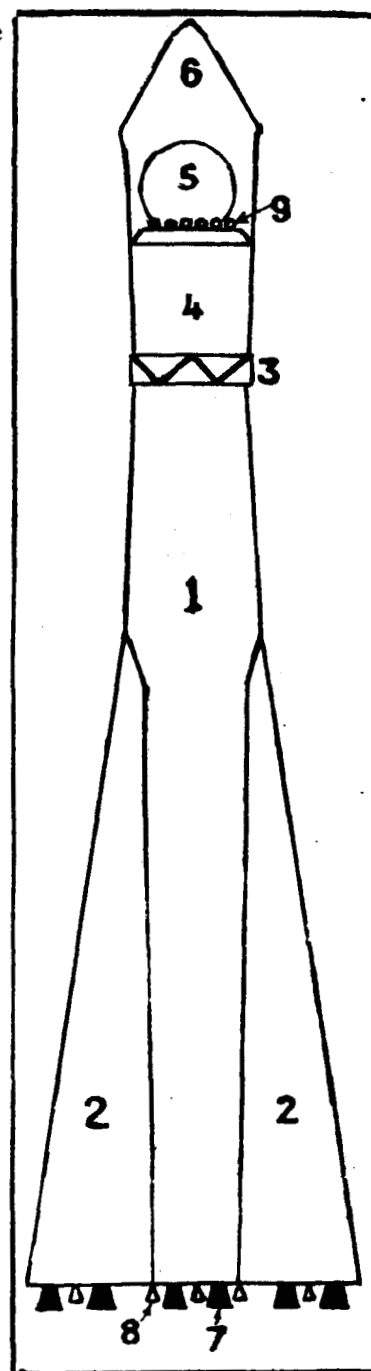


Fig.3  
Carrier-rocket  
"VOSTOK"

Finally, dummies of communication satellite "MOLNIYA" are exhibited. These satellites orbit around the Earth in 12 hours between 500 and 39000 kilometers altitude. (American communication satellites have a period of 24 hours and appear as stationary in the sky). Four satellites MOLNIYA have been launched since April 1965.

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Translated by ANDRE L. BRICHANT

on 30 May 1967

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